

## SMOKING CESSATION THROUGH FUNCTIONAL ANALYSIS

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In recent years applied behavior analysts have made increasing use of functional analyses of behavior to determine the reinforcers for aberrant behavior. Once the reinforcers for the behavior are determined, intervention strategies based on the existing consequences for the behavior are implemented. Functional analysis technology has been particularly relevant in treating self-injurious behavior (SIB). For example, Iwata, Dorsey, Slifer, Bauman, and Richman (1982) conducted a classic study analyzing the relationship between SIB and various positive and negative reinforcement contingencies. Their research showed that for 6 of the 9 people studied, SIB occurred more frequently under some stimulus conditions than others. Other studies using functional analysis technology have found that SIB can be reinforced by social attention (Lo-

vaas & Simmons, 1969), automatic (i.e., sensory) reinforcement (Rincover & Devany, 1982), access to favored items or events (Patterson, Littman, & Bricker, 1967), and escape from demands (Carr, Newsom, & Binkoff, 1980).

The techniques behavior analysts have used to isolate the function of aberrant behavior have included questionnaires (Durand & Crimmins, 1988), scatter plots that measure and depict the frequency of problem behaviors during intervals of time within a given day (Touchette, MacDonald, & Langer, 1985), and analogue conditions in which hypothesized controlling factors are preexperimentally manipulated to determine their effects on behavior (Iwata et al., 1982).

Behavior analysts may not be aware of the fact that health-care professionals employ similar technology in treating smoking behavior. *The Wellness Encyclopedia* (Health Letter Associates, 1991), written by a group of physicians dedicated to preventive medicine, has patients assess their moti-

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Table 1

## Why Do You Smoke?

True or False: I smoke

1. because I light up automatically and don't know I'm doing it.
2. because it's relaxing.
3. because I like handling cigarettes, matches, and lighters.
4. to help deal with anger.
5. to keep from slowing down.
6. because it's unbearable not to.
7. because I enjoy watching the smoke as I exhale it.
8. to take my mind off my troubles.
9. because I really enjoy it.
10. because I feel uncomfortable without a cigarette in my hand.
11. to give myself a lift.
12. without planning to—it's just part of my routine.

Results: "True" answers to 5 and 11 indicate that you smoke for stimulation; to 3 and 7, that the pleasure of handling is important; to 2 and 9, that you seek relaxation; to 4 and 8, that you need a tension-reducing crutch; to 6 and 10, that you have a physiological addiction; to 1 and 12, that you smoke from habit. No doubt you smoke for a combination of these reasons.

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Note. Taken from *The Wellness Encyclopedia* (p. 54) by Health Letter Associates. Published by Houghton Mifflin, Boston, 1991. Reprinted by permission.

vation for smoking behavior before undertaking a smoking cessation program. The survey, based on one by the U.S. Department of Health and Human Services, asks the patients if they smoke for reasons such as relaxation, enjoyment, to get a lift, to take their minds off their troubles, and so forth (Table 1). Once a participant assesses the reason for smoking, a strategy is based on the information. Thus, participants who smoke for stimulation are urged to find a healthy substitute, such as a walk or other exercise. People who smoke for relaxation are encouraged to engage in a physical or social activity, such as a hobby or deep breathing. If handling cigarettes is important, it is recommended that these smokers take up a task that supplies tactile sensations, such as doodling, finger playing with small objects, or embroidering. Interestingly, some smokers are urged to go "cold turkey," whereas others are asked to quit gradually. Thus, those who are physiologically addicted to smoking are asked to set a date and then quit smoking entirely. When the habitual factor is predominant, the recommended procedure is to reduce the number of cigarettes smoked by a few each day.

Given the interest that physicians demonstrate in conducting functional analyses of smoking behavior, behavior analysts can make significant contributions to the approach by introducing rigorous measurement procedures and research designs.

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